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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/675,572 | 09/30/2003 | Gerald W. Gibson JR. | Gibson 12/075903-208 | 9966 |
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29391 7590 06/28/2005

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ORLANDO, FL 32801

EXAMINER

TOLEDO, FERNANDO L

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/675,572

Applicant(s)

GIBSON, GERALD W.

Examiner

Fernando L. Toledo

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/9/04 &amp; 3/10/05</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 1 – 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8 April 2005.
2. Applicant's election without traverse of claims 21 – 30 in the reply filed on 8 April 2005 is acknowledged.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 21 and 23 – 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Jerbic (U. S. Patent 5,500,076 A).
5. In re claim 21, Jerbic, in the U. S. Patent 5,500,076 A; figures 1 and 2 and related text discloses a first optical device for producing a first signal representative of an actual etchant gas concentration (Column 3, Lines 26 – 33); a second optical device for producing a second signal of an inert gas concentration (Column 3, Lines 39 – 41); an element for relating the first and the second signals to produce a normalized etchant gas concentration signal (Column 4, Lines 10 – 19); a comparing element for comparing the normalized etchant gas concentration signal with a

signal representing a desired etchant gas concentration and for producing a normalized signal in response thereto, wherein the normalized signal is provided to the first mass flow controller for controlling the etchant gas concentration (Column 4, Lines 10 – 19).

6. In re claim 23, Jerbic discloses wherein the inert gas includes argon (Column 3, Line 58).

7. In re claim 24, Jerbic discloses further including an energy source for forming a plasma in the etch chamber (Column 4, Lines 25 – 27).

8. In re claim 25, Jerbic discloses wherein the first signal includes a first signal representative of a spectral emission line formed by the etchant gas interacting with the plasma (Column 3, Lines 26 – 33).

9. In re claim 26, Jerbic discloses wherein the second signal includes a second signal representative of a spectral emission line formed by the inert gas interacting with the plasma (Column 3, Lines 50 – 57).

10. In re claim 27, Jerbic discloses wherein the element for relating the first and second signals includes a divider (Figure 2).

11. In re claim 28, Jerbic discloses wherein the first optical device comprises in serial relation, and optical fiber disposed to receive light energy from within the etch chamber, an optical filter and a light detector for producing the first signal (Column 3, Lines 26 – 33).

12. In re claim 29, Jerbic discloses wherein the second optical device includes in serial relation, an optical fiber disposed to receive light energy from within the etch chamber, an optical filter and a light detector for producing the second signal (Column 3, Lines 51 – 57).

13. In re claim 30, Jerbic discloses wherein the first and second optical devices are responsive to a bifurcated optical fiber disposed within an opening in the etch chamber and

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responsive to spectral emissions in the etch chamber, wherein the optical fiber carries an optical representative of the actual etchant gas concentration and the inert gas concentration (Column 4, Lines 10 – 19).

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jerbic in view of Applicant's Admitted Prior Art (AAPA).

16. Jerbic does not disclose that the etchant gas includes an oxygen radical. However, Jerbic discloses that the disclosed device can be used in any plasma-enhanced process, including plasma etch (Column 4, Lines 25 – 27).

AAPA discloses a conventional plasma etching process wherein the etchant gas includes oxygen radicals (page 3, paragraph 0007).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the device of Jerbic with the process of AAPA, since the device of Jerbic obtains a ratio of reactant gas and inert gas that indicates the concentration of consumable reactant in the chamber which would be relatively free of noise (Column 3, Lines 26 – 33).

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***Conclusion***

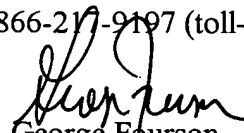
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fernando L. Toledo whose telephone number is 571-272-1867. The examiner can normally be reached on Mon-Thu 7am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



FToledo  
24 June 2005



George Fourson  
Primary Examiner  
Art Unit 2823